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<div align="center">
CONTINUATION OR DIVISIONAL APPLICATION
WHERE ORIGINAL APPLICATION PAPERS
ARE USED AS BASIC PAPERS AND
ORIGINAL APPLICATION IS NOT TO BE ABANDONED
</div>

DOCKET NUMBER	ANTICIPATED CLASSIFICATION OF THIS APPLICATION:		PRIOR APPLICATION:09/229,490	ART UNIT:2711
PHLY-25,394	CLASS	SUBLCASS	EXAMINER	

Commissioner of Patents
and Trademarks
Washington, D.C. 20231

This is a Request for filing a $\underline{x}$ Continuation, __ Divisional application under 37 C.F.R. 1.53(b) of prior application Serial No. 09/229,490, filed on January 11, 1999, entitled DUAL PORT INTERACTIVE MEDIA SYSTEM, by the following inventors:

FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	Reams	David	A.
RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	Perrysburg	Ohio 43552	US
POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
	P.O. Box 502	Perrysburg	Ohio 43552

The above identified prior application has not yet issued, nor has abandonment of proceedings occurred.

1. _____ Enter the amendment previously filed on _____ under 37 C.F.R. 1.116 but unentered, in the prior application.

2. ___x___ A preliminary amendment is enclosed.

3. ___x___ Please cancel claims 1-13 before calculating the filing fee.

The filing fee is calculated on the basis of the claims existing in the prior application as amended at 1, 2 and 3 above.

(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) CALCULATIONS
TOTAL CLAIMS	36 - 20 =	16	x $9.00 =	$144.00
INDEPENDENT CLAIMS	3 - 3 =		x $39.00 =	$.00
			BASIC FEE	+ $345.00
			TOTAL	= $489.00

4.   x   A check in the amount of $489.00 is enclosed in payment of the filing fees. Please charge any additional fees or deficiencies in fees or credit any overpayment to Deposit Account No. 20-0780/PHLY-25,394 of HOWISON, CHAUZA, HANDLEY & ARNOTT, L.L.P.

5.	X	Amend the specification by inserting before the first sentence: This application is a _x Continuation, ___ Division of Application Serial No. 09/229,490, filed January 11, 1999.

6.		Priority of Application Serial No. ___'___', filed on _____ in _____ ___ is claimed under U.S.C. 119.

7.	X	The prior application is assigned of record to DigitalConvergence.:com Inc..

8.	X	Applicant continues to assert small entity status as evidenced by the Verified Statement Claiming Small Entity Status which was filed in the prior application, a copy of which is attached hereto.

9.	X	Please transfer the drawings from the prior application to the new application.

10.	X	A true copy of what is shown in my records to be the above identified prior application as filed, including the oath or declaration as originally filed, is enclosed. (37 C.F.R. 1.60 (b) (2)) The copy of the prior application as filed and attached hereto consists of the following:

                    16 page(s) of specification
                    4 page(s) of claims
                    1 page(s) of abstract
                    1 page(s) of drawing

11.	_____	Also enclosed is:_____

	_____	Also enclosed: Request for _____ month extension of time response, with fee of __ _____.

12.		The power of attorney in the prior application is to: Gregory M. Howison.

Address all future communications to:
    Gregory M. Howison
    HOWISON, CHAUZA, HANDLEY & ARNOTT, L.L.P.
    P.O. Box 741715
    Dallas, Texas 75374-1715
    972/479-0462

The undersigned states that the enclosed application papers comprise a true copy of the prior application as filed.

7/25/00
DATE

GREGORY M. HOWISON, Reg. No 30,646

____ Inventor(s)
X   Attorney or agent of record
____ Assignee of complete interest
____ Filed under 1.34(a)

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STATEMENT CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR	Docket Number (Optional)

Applicant, Patentee, or Identifier: __David A. Reams__

Application or Patent No.: __CIP of pending App. #08/510,900__

Filed or Issued: __App. #08/510,900 filed 8/3/95 (This CIP filed 1/11/99)__

Title: __"DUAL PORT INTERACTIVE MEDIA SYSTEM"__

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

☐ the specification filed herewith with title as listed above.

☒ the application identified above.

☐ the patent identified above.

I have not assigned, granted, conveyed, or licensed, and am under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

☒ No such person, concern, or organization exists.

☐ Each such person, concern, or organization is listed below.

Separate statements are required from each named person, concern, or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

David A. Reams		
NAME OF INVENTOR	NAME OF INVENTOR	NAME OF INVENTOR
signature		
Signature of inventor	Signature of inventor	Signature of inventor
1/11/99		
Date	Date	Date

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: David A. Reams

Serial No.:

For: METHOD FOR RETRIEVING PRODUCT INFORMATION OVER A
                        COMMUNICATION NETWORK

Honorable Commissioner of
  Patents and Trademarks
Washington, D.C. 20231

Dear Sir:

PRELIMINARY AMENDMENT

Prior to the initial review, please amend as follows the accompanying Rule 1.53(b)
continuation application of pending prior application Serial No. 09/229,490 filed on January 11,
1999.

IN THE TITLE OF THE INVENTION

Please delete the present title of the invention and insert therefor --METHOD FOR
RETRIEVING PRODUCT INFORMATION OVER A COMMUNICATION NETWORK--.

IN THE CROSS REFERENCE TO RELATED APPLICATIONS

Please delete the Cross Reference to Related Applications in the present application and
insert the following before the first sentence of the specification:

This application is a Continuation of U.S. Patent Application, Serial No. 09/229,490, filed January 11, 1999 and entitled "DUAL PORT INTERACTIVE MEDIA SYSTEM," (Atty. Dkt. No. PHLY-24,861); which is a Continuation-In-Part of U.S. Patent Application, Serial No. 08/510,900, filed August 3, 1995 and entitled "TELEPHONE-BASED INTERACTIVE BROADCAST OR CABLE RADIO OR TELEVISION METHODS AND APPARATUS," now U.S. Patent No. 5,907,793 issued May 25, 1999; which is a Continuation-In-Part of U.S. Patent Application, Serial No. 08/127,140, filed September 27, 1993, abandoned, and entitled "APPARATUS OR DEVICE AND SEVERAL PROCESSES FOR AN INTERACTIVE RADIO COMMUNICATIONS SERVICE;" which is a Continuation-In-Part of U.S. Patent Application, Serial No. 07/877,078, filed May 1, 1992, abandoned, and entitled "INTERACTIVE RADIO COMMUNICATIONS."

IN THE SUMMARY OF THE INVENTION

Please delete the entire Summary of the Invention in the present application, and insert therefor:

--The present invention disclosed and claimed herein comprises a method for retrieving product information including at least product/service identification or description and related to a commercial event and associated with a remote location on a communications network. A receiver is operable to receive at a user location a broadcast including a data set associated with the product information. The data set is extract from a non-video portion of the broadcast in an extracting system. A connection device is provided to connect the user location to the remote location on the network in response to extracting the data set to enable retrieval of the product information from

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the remote location.--

IN THE CLAIMS

Please delete Claims 1-13 in the present application and insert the following claims:

--14. A method for retrieving product information including at least product/service identification or description and related to a commercial event and associated with a remote location on a communications network, comprising the steps of:

receiving at a user location a broadcast including a data set associated with the product information,

extracting the data set from a non-video portion of the broadcast in an extracting system; and

operating a connection device to connect the user location to the remote location on the network in response to extracting the data set to enable retrieval of the product information from the remote location.--

--15. The method of Claim 14, wherein the step of receiving comprises the steps of:

generating a reference signal in a receiving device;

presenting a reception signal from the broadcast at an input of the receiving device;

mixing the reception signal with the reference signal to detect a received signal in the receiving device;

demodulating the received signal to output a data stream; and

coupling the data stream to a data decoder.--

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--16.   The method of Claim 15, wherein the step of generating a reference signal in a receiving device comprises the step of:

activating a local oscillator having a predetermined frequency and amplitude to provide a heterodyning signal.--

--17.   The method of Claim 15, wherein the step of presenting a reception signal at an input to the receiving device comprises the step of:

locating an RF signal encoded with the reception signal comprising modulation variations in a carrier signal in the broadcast within the range of a detection antenna coupled to an input of the receiving device.--

--18.   The method of Claim 15, wherein the step of mixing the reception signal with the reference signal to detect a received signal in the receiving device comprises the steps of:

detecting the received signal by mixing the reception signal and the reference signal in a nonlinear circuit; and

outputting the received signal corresponding to a difference between the frequencies of the reception and the reference signals.--

--19.   The method of Claim 14, wherein the step of extracting comprises the steps of:

decoding the data set to output the product information in binary data form;

coupling the binary data product information to a first memory in a data processor; and

executing a first program of instructions to process the product information and send it to the connection device.--

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--20.   The method of Claim 14, wherein the step of operating comprises the steps of:

receiving and reading the product information from the extracting step; and

executing a second program of instructions to establish a communication connection between the user location and the remote location using information read from the product information.--

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--21.   A method for retrieving product information including at least product/service identification or description and related to a commercial event and associated with a remote location on a communications network, comprising the steps of:

5   receiving at a user location a broadcast including a data set associated with the product information, the signal embedded in a widely disseminated communication from a source to numerous user locations having a device for retrieving the signal;

            extracting the data set from the signal in an extracting system; and

            operating a connection device to connect the user location to the remote location
10   on the network in response to extracting the data set to enable retrieval of the product information from the remote location.--

--22.   The method of Claim 21, wherein the step of receiving comprises the steps of:

            generating a reference signal in a receiving device;

            presenting a reception signal from said widely disseminated communication at
5   an input of the receiving device;

            mixing the reception signal with the reference signal to detect a received signal in the receiving device;

            demodulating the received signal to output a data stream; and

            coupling the data stream to a data decoder.--

--23.   The method of Claim 22, wherein the step of generating a reference signal in a receiving device comprises the step of:

            activating a light source to provide a coherent light beam having a predetermined wavelength and intensity to provide an incident signal.--

--24.   The method of Claim 22, wherein the step of presenting a reception signal at an input to the receiving device comprises the step of:

locating a printed indicia encoded with the reception signal comprising the reflected variations in light beam intensity resulting from scanning the printed indicia in the widely disseminated communication within the range of a detection device coupled to an input of the receiving device.--

--25.   The method of Claim 22, wherein the step of mixing the reception signal with the reference signal to detect a received signal in the receiving device comprises the steps of:

detecting the received signal by placing the reference signal in incident relationship upon the printed indicia containing the reception signal; and

outputting the received signal corresponding to reflected variation in light intensity resulting from scanning the printed indicia.--

--26.   The method of Claim 21, wherein the step of extracting comprises the steps of:

decoding the data set to output the product information in binary data form;

coupling the binary data product information to a first memory in a data processor; and

executing a first program of instructions to process the product information and send it to the connection device.--

--27.   The method of Claim 21, wherein the step of operating comprises the steps of:

receiving and reading the product information from the extracting step; and

executing a second program of instructions to establish a communication

connection between the user location and the remote location using information read from the product information.--

--28.   A system for retrieving product information related to a commercial event and associated with a remote location on a network, comprising:

a receiver at a user location for receiving a broadcast including a data set associated with said product information;

an extracting system for extracting said data set from a non-video portion of said broadcast; and

a connection device for connecting said user location to said remote location on said network responsive to extraction of said data set to enable retrieval of said product information from said remote location.--

--29.   The system of Claim 28, wherein said data set comprises connection information encoded in a unique code.--

--30.   The system of Claim 29, wherein said unique code comprises a universal product code.--

--31.   The system of Claim 29, wherein said unique code comprises a machine readable code.--

--32.   The system of Claim 28, wherein said broadcast comprises:

a widely disseminated communication from a source to numerous user locations having a said receiver.--

--33.   The system of Claim 32, wherein said widely disseminated

communication comprises:

a printed publication having said data set encoded therein as indicia.--

--34.   The system of Claim 32, wherein said widely disseminated communication comprises:

an electronic broadcast having said data set encoded therein as audio.--

--35.   The system of Claim 28, wherein said receiver comprises:

a device adapted to selectively retrieve said signal from among other signals in said widely disseminated communication; and

an output circuit for coupling said retrieved signal to said extracting system.--

--36.   The system of Claim 35, wherein said device comprises:

a radio tuner for demodulating a received radio broadcast.--

--37.   The system of Claim 36, wherein said radio tuner comprises a circuit tuned to receive a radio, television, cable, fiber optic or satellite broadcast.--

--38.   The system of Claim 28, wherein said receiver device comprises a circuit tuned to detect optically distinguishable indicia in a printed publication.--

--39.   The system of Claim 38, wherein said circuit comprises a scanning device for reading a machine readable code.--

--40.   The system of Claim 28, wherein said extracting device comprises:

a data receiving device, comprising:

a data decoding device for outputting said data set extracted from said broadcast

and expressed in binary form; and

a data processing unit having a data input for receiving said data set, first and second memories, a communication terminal and operating according to a program of instructions.--

41.   The system of Claim 40, wherein said first memory comprises a random access memory for storing said data set received at said data input.--

--42.   The system of Claim 40, wherein said second memory comprises a read only memory for storing said program of instructions.--

--43.   The system of Claim 40, wherein said data processing unit comprises a microprocessor operable according to said program of instructions to store said data set and send connection information from said data set to said connection device upon a user command.--

--44.   The system of Claim 28, wherein said connection device comprises:

a communication device responsive to a user command for establishing a connection via said network between said extracting system and said remote locations; and

a device for relaying a response, wherein said response having at least product/service identification information and consumer identification information.--

--45.   The system of Claim 28, wherein said connection device comprises:

a communication device for establishing a connection via said network between said extracting system and said remote location.--

--46.   The system of Claim 28, wherein said network comprises a global communication network.--

--47.   The system of Claim 45, wherein said communication device comprises a telephone dialer operable to establish said connection by dialing a response telephone number extracted from said data set.--

--48.   The system of Claim 45, wherein said communication device comprises a bidirectional communication interface operable to establish said connection according to a predetermined protocol.--

--49.   The system of Claim 44, wherein said remote location comprises:

a service center computer for receiving and validating said response data set and forwarding said connection between said extracting system and a vendor location coupled to said network.--

IN THE ABSTRACT OF THE DISCLOSURE

Please delete the entire Abstract of the Disclosure in the present application, and insert therefor:
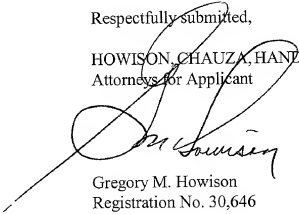
--Method for retrieving product information over a communication network. A method for retrieving product information including at least product/service identification or description and related to a commercial event and associated with a remote location on a communications network. A receiver is operable to receive at a user location a broadcast including a data set associated with the product information. The data set is extract from a non-video portion of the broadcast in an extracting system.

A connection device is provided to connect the user location to the remote location on the network in response to extracting the data set to enable retrieval of the product information from the remote location

Please charge any additional fees or deficiencies in fees or credit any overpayment to Deposit Account No. 20-0780/PHLY-25,394 of HOWISON, CHAUZA, HANDLEY & ARNOTT, L.L.P.

Respectfully submitted,

HOWISON, CHAUZA, HANDLEY & ARNOTT, L.L.P.
Attorneys for Applicant

Gregory M. Howison
Registration No. 30,646

GMH/aw
P.O. Box 741715
Dallas, Texas 75374-1715
972/479-0462
July 25, 2000

DUAL PORT INTERACTIVE MEDIA SYSTEM

RELATED APPLICATION

This application is a continuation-in-part of pending
application Ser. No. 08/510,900, filed August 3, 1995.

TECHNICAL FIELD

The present invention relates to the field of storing
in and retrieving from memory telephone number or
electronic address data received in an interactive
television or radio system. In particular, this invention
relates to simultaneously storing in and retrieving from
memory telephone number or electronic address data received
in an interactive television or radio system.

SUMMARY AND BACKGROUND ART

Conventional interactive television systems utilize a
telephone number or electronic address encoded in a video
signal for viewers to automatically be placed in telephone
or computer communication with a program source or sponsor.
For example, D.S. Isenberg, et al, Pat. No. 5,570,295
teaches a system for receiving and detecting telephone
number data encoded in video signals, storing the telephone
number data and transmitting the telephone number data over
a telephone network to initiate a call. G.P. Fitzpatrick,
et al, Pat. No. 5,262,860 discloses a system that utilizes
stored telephone number data to automatically establish
communication between a data processing system and an
external location.

Said prior art systems provide means for automatically

dialing received telephone number data in response to
television program material. Further, said prior art
systems teach means for accessing telephone number data
stored in memory for viewer interactive response.

Should new telephone number data be received while
stored telephone number data is being accessed for
automatic dialing, however, said prior art systems do not
provide any means for storing said newly received telephone
number data simultaneously or substantially simultaneously
while said previously stored telephone number data is being
accessed for automatic dialing. Likewise, no means are
provided in the prior art for accessing stored telephone
number data for automatic dialing simultaneously or
substantially simultaneously while newly received telephone
number data is being stored.

Specifically, the problem in prior art interactive
television systems is that the memory used comprises single
port functionality limited to providing memory access
either to retrieve stored telephone number or electronic
address data or to store newly received telephone number or
electronic address data, not both said retrieving and said
storing simultaneously or substantially simultaneously.
Prior art systems have neither identified this memory
limitation as a problem nor recognized the desirability of
overcoming this memory limitation.

This limitation in prior art, however, severely limits

the utility of interactive systems, for example, when
multiple separate telephone number or electronic address
data sets are encoded in program material to be received in
rapid fire succession one-after-the-other. Such program
material may be an advertisement advertising multiple
products each having a different associated telephone
number or electronic address encoded for reception at or
near the time the product is mentioned. Because such
utility would undoubtedly result in the simultaneous access
of stored telephone number or electronic address data and
storing of newly received telephone number or electronic
address data, the described prior art memory limitation
would preclude such utility.

Similarly, when a television channel is changed during
access of previously stored telephone number or electronic
address data for transmission in response to a program, new
telephone number or electronic address data associated with
new program material tuned-in may be received to be stored.
Said prior art limitation would also preclude this utility.

A possible solution to the above-referenced problem
may be programming an interactive response device to
process received telephone number or electronic address
data for viewer response only at a time corresponding to
reception of a relevant or associated portion of the
program material. Such programming, however, would add
undue complexity and cost to both the device and system for

encoding telephone number or electronic address data.

Another possible solution to the described problem may be equipping interactive response devices with dual port memory so as to be able to store newly received telephone number or electronic address data and retrieve from memory previously stored telephone number or electronic address data simultaneously or substantially simultaneously. Yet, as disclosed in P.D. Crary, Pat. No. 5,802,579, which is incorporated herein by reference, dual port memory requires more complex control circuitry, greater power consumption and more gates to implement than a similarly sized single-ported memory.

In solving the above-referenced problem, said costs of dual port memory design must be balanced against the benefits offered by the dual port memory. This invention recognizes said dual port memory benefits to outweigh said costs and thus solves the above-referenced problem through providing in an interactive television or radio system dual port memory means for simultaneous or substantially simultaneous storing in and retrieving from memory telephone number and electronic address data.

Accordingly, the overriding object of the present invention is to equip consumer response devices to be used in an interactive television or radio system with dual port memories.

A related object of the instant invention is to

provide dual port memory means in an interactive television or radio system for storing received telephone number or electronic address data and accessing stored telephone number or electronic address data simultaneously or substantially simultaneously.

Additional objects of this invention will become apparent from the detailed description contained herein.

BRIEF DESCRIPTION OF THE DRAWING

The Drawing depicts

1) a system for generating a data set including data representative of a telephone number or electronic address associated with commercial or non-commercial television program material, encoding the data set for television data transmission and transmitting the data set to a television tuner data receiver and

2) a television tuner data receiver for receiving the data set interfaced to a DUAL PORT SYSTEM for processing in predetermined manner at least the telephone number or electronic address data, writing said data into memory, indicating by visual display means that the telephone number or electronic address data is stored in memory, activating reading of the stored data, reading the stored data and outputting the read telephone number or electronic address data to transmission means to be transmitted to an external location wherein the memory comprises access means capable of providing the write and

read means simultaneous or substantially simultaneous
access to the memory.

While the Drawing is specific to broadcast or cable
television, the principles and teachings embodied herein
apply equally to broadcast or cable radio. Further,
broadcast or cable radio may consist of Digital Audio Radio
(DAR), including satellite and/or terrestrial digital audio
broadcasting (DAB) and digital cable radio.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

A. DATA GENERATING, ENCODING AND TRANSMISSION

In the Drawing, COMPUTER 1/3 generates a data set
including data (preferably digital data) representative of
a telephone number or electronic address to, for example,
TELEMARKETING 27 or WEBSITE 28 associated with commercial
or non-commercial television program material. Said
telephone number may be a toll free telephone number, a
local telephone number including a local dial-up Internet
telephone number or an Internet Protocol (IP) number for IP
telephony and may include an electronic address such as a
Website address. For the in-car broadcast radio market,
said telephone number may be a cellular radio number. To
identify said telephone number or electronic address data,
said data set may further include an header code of
predetermined format to be detected at the receiver unit.

COMPUTER 1, residing at a location exterior to
TELEVISION FACILITY, may generate said data set and

transmit it via PUBLIC/PRIVATE LINK 2, which may be the
public switched telephone network (PSTN), an integrated
services digital network (ISDN) or similar wire or wireless
facility, to COMPUTER 3 located at TELEVISION FACILITY (an
analog or digital broadcast or cable television facility).
At COMPUTER 3, said data set is then stored and transmitted
at appropriate times in conjunction with the facility's
transmissions to the general public.

The data set is transmitted via TELEVISION DATA
TRANSMISSION LINK 12, which may be a broadcast or cable
television data or program audio channel, to TELEVISION
TUNER 13 data receiver, which may be a set-top box (STB).
DATA ENCODING DEVICE 4 is used to encode said data set to
be transmitted via a broadcast or cable television data
channel such as a subcarrier, Vertical Blanking Interval
(VBI) channel or a digital television (DTV)-designated data
channel. DATA ENCODING DEVICE 5 is used to encode said
data set in audio frequency format to be mixed with program
audio signals through MIXER 6.

The data set may be embedded as program audio data
while the program material is being produced, for example
at an advertising agency or production house. AUDIO
FREQUENCY ENCODING DEVICE 7 may be used to embed the data
set in a program audio signal. The embedded data set is
then fed to RECORDER 8 and onto STORAGE MEDIUM 9, or,
alternatively, sent through AUDIO TRANSMISSION MEANS 10

such as a network program distribution system. STORAGE
MEDIUM 9 may then be sent to TELEVISION FACILITY for later
playback to viewers via PLAYBACK DEVICE 11.

B. DUAL PORT SYSTEM

1. DATA INPUT AND PROCESSING

The data set received via broadcast or cable
TELEVISION TUNER 13 data receiver, i.e. a data or program
audio channel, is fed via DATA INPUT DEVICE 14 to
MICROPROCESSOR 15 for predetermined processing. Any
conventional microprocessor or central processing unit
device adapted for the dual port system specified herein
may be used as MICROPROCESSOR 15. The program of
instructions which controls the actions of MICROPROCESSOR
15 is stored in ROM 19, which may use electrically erasible
programmable ROM (EEPROM) and non-volatile memory storage.

Optionally, said data set may include certain address
information for locator utility, which may be designated in
the telephone number or electronic address data itself or
by a wholly separate code, such as geographic, area code or
individual receiver address information. With a toll free
telephone number, said address information, i.e. the "800"
area code, may designate a global address. For mobile
(in-car radio) units, said address information may comprise
GPS signals to be processed by an in-car GPS device.

Using this locator feature, ADDRESS CODE MEMORY 16
stores preprogrammed address information indicating the

unit's pre-assigned address, which may be assigned when the
unit is purchased and reflect the purchaser's home address.
If such address information is detected, ADDRESS CODE
MEMORY 16 inputs the preprogrammed address information to
MICROPROCESSOR 15 to compare the unit's pre-assigned
address with the received address information. Only if a
match is detected does MICROPROCESSOR 15 further process
the data set using this locator feature.

<div align="center">2. DUAL PORT MEMORY</div>

Upon receiving telephone number or electronic address
data to be stored from DATA INPUT DEVICE 14, MICROPROCESSOR
15 routes said data via WRITE ADDRESS AND DATA BUS 17 to be
stored in a predetermined address location in RAM 18, which
stores the data as digital data and may have a plurality of
memory locations for storing digitally encoded telephone
number or electronic address data in predetermined order
(i.e. FIFO). MICROPROCESSOR 15 stores in a predetermined
memory location, preferably located in or adjacent to
MICROPROCESSOR 15, said predetermined address location in
RAM 18 in which said data is stored.

RAM 18 has dual port memory functionality for data to
be written into and read out from RAM 18 during the same
memory access. To reduce cost and complexity, the write
data and read data means embodied in this invention may be
limited to respective write and read access only.

Advantageously, said dual port memory functionality

enables stored telephone number or electronic address data
to be accessed via READ DEVICE 23 simultaneously or
substantially simultaneously while newly received telephone
number or electronic address data received via TELEVISION
TUNER 13 data receiver is being stored via WRITE ADDRESS
AND DATA BUS 17 in RAM 18. Conversely, said dual port
memory functionality enables newly received telephone
number or electronic address data received via TELEVISION
TUNER 13 data receiver to be stored simultaneously or
substantially simultaneously while previously stored
telephone number or electronic address data is being
accessed via READ DEVICE 23.

                    a. DUAL MEMORY PORTS

     RAM 18 dual port memory functionality may be
implemented using two physical memory ports as disclosed in
W.L. Davis, Pat. No. 4,769,642, which is incorporated
herein by reference. In this embodiment, RAM 18 is
accessed via two separate memory ports.

     The dual port memory system disclosed in W.L. Davis,
Pat. No. 4,769,642 includes an address decoder for
detecting address signals indicating transmitted data is
intended for the receiver. The address decoding routine is
activated when the receiver is turned on and compares
received address information with pre-stored address
information to detect a match.

     When the dual port memory system disclosed in W.L.

Davis, Pat. No. 4,769,642 receives address signals
indicating data intended for the receiver is forthcoming, a
microprocessor-based controller activates dual port memory,
serves to receive the data and route it to be stored in the
dual port memory via one of two memory input ports. In
addition, control words are used to inform memory control
circuitry as to the location(s) of stored data. Further,
said system uses control words to indicate status
information of whether data has been read previously and
the order data has been received.

A microprocessor stores the control words in a
predetermined memory location. Using the control words for
direction, received data may be stored in an unused memory
location or, if an unused memory location is unavailable,
over data which has been read or the oldest stored data.

One port of the dual port memory is coupled to a data
receiver and the other port to a speech synthesizer.
Through port address and data busses, data may be stored in
and retrieved from the dual port memory simultaneously.

b. SINGLE-PORTED MEMORY

Alternatively, dual port RAM 18 functionality may be
obtained by using a single-ported memory having dual port
memory functionality such as the SRAM array and pipelined
dual port integrated circuit memory disclosed in S.G.
Nogle, et al, Pat. No. 5,781,480, which is incorporated
herein by reference. In said pipelined dual port

embodiment of this invention, SRAM array is a single port
RAM 18 functioning as a dual port memory.

Further, in the dual port SRAM system disclosed in
S.G. Nogle, et al, Pat. No. 5,781,480, a single-ported SRAM
array comprises a plurality of memory cells. A memory cell
includes N-channel metal oxide semiconductor (MOS)
transistors and inverters. Preferably, in the present
invention, one cell stores one telephone number or address.

An address decoder coupled to the plurality of memory
cells receives memory cell address information and
the memory cell to be accessed. Said memory cell address
information, consisting of a first or second address, is
provided by, respectively, first and second address ports
coupled to the address decoder.

Data is written into or read from the addressed memory
cell through, respectively, write or read data ports. A
control circuit is coupled to the address decoder, first
and second address ports and write/read data ports to
control memory cell access. In the instant invention, said
control circuit functionality may reside in MICROPROCESSOR
15.

A memory cell is accessed by activation of a single
word line using a single bit line pair. Two accesses to
memory may always occur within a single clock cycle of the
accessing data processor's clock.

Advantageously, the dual port SRAM embodiment of this

invention enables telephone number or electronic address data received while previously stored telephone number or electronic address data is being read from one RAM 18 memory cell to be stored in another RAM 18 memory cell substantially simultaneously while said previously stored data is being read. Conversely, this embodiment allows reading from one RAM 18 memory cell of previously stored telephone number or electronic address data to be accomplished substantially simultaneously while newly received telephone number or electronic address data is being stored in another RAM 18 memory cell. As used in regard to this embodiment, the term "substantially simultaneously" means within a single clock cycle of the MICROPROCESSOR 15 clock.

Using the SRAM array dual port system disclosed in S.G. Nogle, et al, Pat. No. 5,781,480, several benefits over prior art dual port systems are achieved. First, a memory cell requires six instead of eight transistors. Second, a memory cell needs only to be connected to a single complimentary pair of bit lines instead of two separate pairs of bit lines, saving two additional access transistors. Furthermore, only a single word line is needed to access a memory cell rather than two word lines for the dual-ported memory cell, thereby also reducing the amount of metal wiring into and out of a memory cell and resulting in relatively inexpensive SRAM cell construction.

3. VISUAL DISPLAY, ACTIVATION AND READ/TRANSMISSION

Simultaneous with or immediately after routing received telephone number or electronic address data via WRITE ADDRESS AND DATA BUS 17 to be stored in RAM 18, MICROPROCESSOR 15 sends a control signal via INTERFACE DEVICE 20 to activate LED 21 or other visual display means such as LCD or text display means (not shown). LED 21, which may be any appropriate color(s), indicates to one or more television viewers that a telephone number or electronic address associated with viewed program material is being stored and is available to be automatically dialed or connected (transmitted) via predetermined transmission means. Further, LED 21 may flash to reflect special urgency in responding such as an ongoing sale with respect to an advertised product.

If interested, a viewer may activate automatic dialing or connecting of the stored telephone number or electronic address data by activating PUSHBUTTON 22 or other activation means such as a keypad or voice recognition unit (not shown). In another embodiment of this invention, said activations means may also be used to activate writing or storing of received telephone number or electronic address data via WRITE ADDRESS AND DATA BUS 17 in RAM 18, in which case MICROPROCESSOR 15 would not immediately route telephone number or electronic address data to WRITE ADDRESS AND DATA BUS 17 when input from DATA INPUT DEVICE

14. Either or both of said visual display means and activation means may reside in a conventional remote control unit utilizing infrared signalling.

Activating said activation means sends a control signal via INTERFACE DEVICE 20 to MICROPROCESSOR 15 to activate READ DEVICE 23 to read via READ ADDRESS AND DATA BUS 24 the telephone number or electronic address data stored in said predetermined address location in RAM 18. READ DEVICE 23 then accesses or reads the stored telephone number or electronic address data directly from RAM 18 via READ ADDRESS AND DATA BUS 24.

Upon retrieving said telephone number or electronic address data, READ DEVICE 23 outputs said data to any appropriate transmission device and link such as AUTODIALER 25 and TELEPHONE LINK 26. AUTODIALER 25, which may be STB telephone means, a modem or, for in-car radio units, cellular telephone means, automatically dials the telephone number or automatically connects the electronic address by transmitting the telephone number or electronic address data via TELEPHONE LINK 26 to, for example, TELEMARKETING 27 or WEBSITE 28. TELEPHONE LINK 26 may be a wireline telephone, cellular radio or computer link or a cable television system adapted for telephone transmission.

AUTODIALER 25 dialing of the telephone number may be accomplished by pulse dialing, DTMF dialing or out-of-band signalling as disclosed in D.S. Isenberg, et al, Pat. No.

5,570,295, which is incorporated herein by reference.
Illustratively, AUTODIALER 25 may generate DTMF tones
corresponding to stored telephone number data and transmit
the tones via an off-hook telephone interface.

DUAL PORT SYSTEM may be integrated in TELEVISION TUNER
13 or built separately with an interface to the tuner's
data or program audio channel. Further, all of the DUAL
PORT SYSTEM components may be combined in a single DSP or
integrated circuit (i.e. ASIC) device.

While AUTODIALER 25 may be integrated in DUAL PORT
SYSTEM sharing MICROPROCESSOR 15 as data processing means,
AUTODIALER 25 may alternatively have its own data processor
and thus not be limited to the interactive television or
radio utility disclosed herein. Indeed, AUTODIALER 25 may
function as a stand-alone home or car telephone unit for
making and receiving conventional telephone calls, having a
built-in or detachable interface to DUAL PORT SYSTEM to
serve as the SYSTEM's transmission means.

Clearly, numerous modifications and variations of the
instant invention are possible in light of the above
teachings. It is therefore understood that, within the
scope and spirit of the claims made herein, the invention
may be practiced otherwise than as specifically described
herein, the invention may be modified in arrangement and
detail without departing from such scope and spirit and,
further, the utility described herein is by way of example.

I claim:

  1. An apparatus for interactive broadcast or cable television or radio comprising:

     broadcast or cable television or radio data receiver means for receiving a data set including telephone number or electronic address data;

     data processing means coupled to said broadcast or cable television or radio data receiver means for processing in predetermined manner at least said telephone number or electronic address data;

     write data means coupled to said data processing means for writing said telephone number or electronic address data into memory means and

     read data means coupled to said memory means for reading stored telephone number or electronic address data from said memory means wherein

          said memory means comprises access means for providing said write data means and said read data means simultaneous or substantially simultaneous access to said memory means.

  2. An apparatus according to claim 1 wherein

     said broadcast or cable television or radio data receiver means comprises broadcast or cable television or radio tuner data receiver means.

  3. An apparatus according to claim 1 wherein

     said broadcast or cable television data receiver

means comprises set-top box means.

4. An apparatus according to claim 1 wherein

said broadcast or cable radio data receiver means

comprises Digital Audio Radio (DAR) data receiver means.

5. An apparatus according to claim 1 wherein

said data set includes address information and

said data processing means further comprises means

for comparing said address information with preprogrammed

receiver address information to detect a match.

6. An apparatus according to claim 1 further

comprising:

visual display means coupled to said data

processing means for indicating said telephone number or

electronic address data is stored in said memory means and

activation means coupled to said data processing

means for activating said read data means.

7. An apparatus according to claim 1 wherein

said memory means comprises means for storing a

plurality of digitally encoded telephone numbers or

electronic addresses in predetermined address locations.

8. An apparatus according to claim 1 wherein

said access means comprises dual port memory means.

9. An apparatus according to claim 1 wherein

said write data means comprises write data port

means and

said read data means comprises read data port

means.

10. An apparatus according to claim 1 wherein

said read data means further comprises output means
for outputting said read telephone number or electronic
address data to transmission means coupled to said read
data means for transmitting said read telephone number or
electronic address data to an external location.

11. A method for interactive broadcast or cable
television or radio including the steps of:

receiving via broadcast or cable television or
radio data receiver means a data set including telephone
number or electronic address data;

processing in predetermined manner via data
processing means coupled to said broadcast or cable
television or radio data receiver means at least said
telephone number or electronic address data;

writing via write data means coupled to said data
processing means said telephone number or electronic
address data into memory means and

reading via read data means coupled to said memory
means stored telephone number or electronic address data
from said memory means wherein

said writing via said write data means and
said reading via said read data means are capable of being
accomplished simultaneously or substantially
simultaneously.

12. A method according to claim 11 further including the steps of:

indicating via visual display means coupled to said data processing means said telephone number or electronic address data is stored in said memory means and

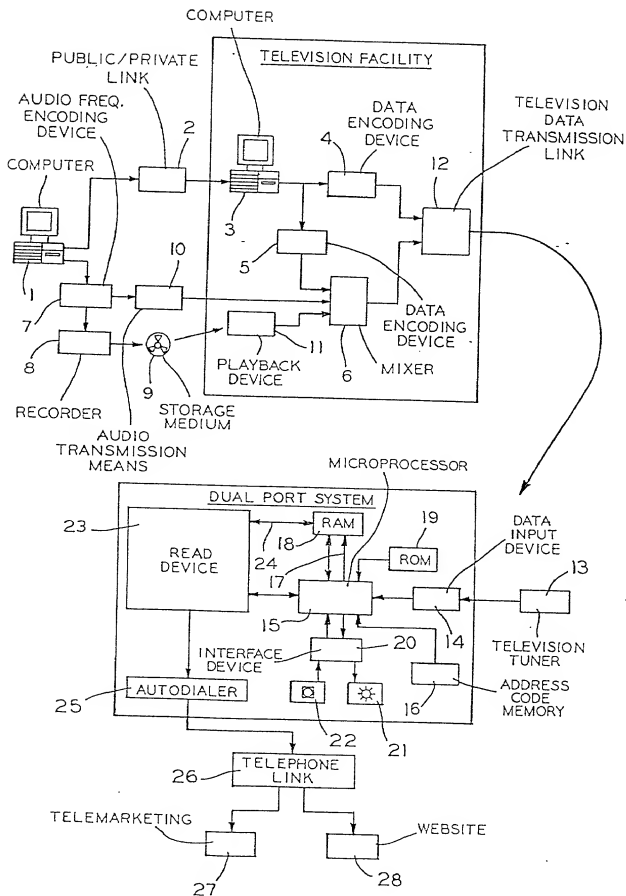activating via activation means coupled to said data processing means said read data means.

13. A method according to claim 11 further including the step of:

outputting said read telephone number or electronic address data from said read data means to transmission means coupled to said read data means for transmitting said read telephone number or electronic address data to an external location.

ABSTRACT OF THE DISCLOSURE

     An interactive broadcast or cable television or radio
system, consisting of a television or radio tuner data
receiver for receiving telephone number or electronic
address data, a memory for storing the telephone number or
electronic address data, a visual display for indicating
the telephone number or electronic address data is stored,
a pushbutton or other activation device for activating
retrieval from memory of the stored telephone number or
electronic address data and output of the retrieved
telephone number or electronic address data to an
autodialer or other transmission device to be transmitted
to an external location, uses a memory having dual port
memory functionality in order for simultaneous or
substantially simultaneous retrieval of stored telephone
number or electronic address data and storing of newly
received telephone number or electronic address data.

COMPUTER

PUBLIC/PRIVATE LINK

TELEVISION FACILITY

AUDIO FREQ. ENCODING DEVICE

COMPUTER

DATA ENCODING DEVICE

TELEVISION DATA TRANSMISSION LINK

2

4

12

3

5

10

1

7

8

RECORDER

9

STORAGE MEDIUM

AUDIO TRANSMISSION MEANS

11

PLAYBACK DEVICE

DATA ENCODING DEVICE

6

MIXER

MICROPROCESSOR

DUAL PORT SYSTEM

23

READ DEVICE

RAM

18

19

ROM

24

17

DATA INPUT DEVICE

13

15

14

TELEVISION TUNER

INTERFACE DEVICE

20

25

AUTODIALER

22

21

16

ADDRESS CODE MEMORY

26

TELEPHONE LINK

TELEMARKETING

WEBSITE

27

28

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: David A. Reams

Serial No.:   09/229,490

Filed: January 11, 1999

Group: 2711

Examiner: Bui, K.

For: DUAL PORT INTERACTIVE MEDIA SYSTEM

Honorable Commissioner of
 Patents and Trademarks
Washington, DC 20231

Dear Sir:

REVOCATION OF POWER OF ATTORNEY
AND NEW POWER OF ATTORNEY

I, David A. Reams, sole inventor and owner of the exclusive right, title and interest in and

to the above-identified patent application, hereby revoke all previous powers of attorney and

hereby appoint:

> Gregory M. Howison, Reg. No. 30,646
> Daniel V. Thompson, Reg. No. 29,706
> Mark W. Handley, Reg. No. 36,821
> Stephen S. Mosher, Reg. No. 33,974

all members of the Bar of the State of Texas and the firm of Thompson & Howison, L.L.P, with

offices at P.O. Box 741715, Dallas, Texas 75374-1715, as my attorneys, to prosecute said

application, and to transact all business in the United States Patent and Trademark Office connected

therewith; and I request that all correspondence be addressed as follows:

> Gregory M. Howison
> THOMPSON & HOWISON, L.L.P.
> P.O. Box 741715
> Dallas, Texas 75374-1715

and that all telephone calls be directed to Gregory M. Howison at (972) 479-0462.

By: _____
    David A. Reams

Date: ____1/4/00_____

PHLY-24,861   PATENT

THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Washington, DC 20231

Dear Sir:

REVOCATION OF POWER OF ATTORNEY
AND NEW POWER OF ATTORNEY

I, William S. Leftwich, Chief Financial Officer of DigitalConvergence.:Com Inc., owner
of the exclusive right, title and interest in and to the above-identified patent application, hereby
revoke all previous powers of attorney and hereby appoints:
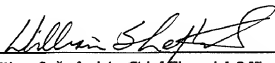
            Gregory M. Howison, Reg. No. 30,646
            Mark W. Handley, Reg. No. 36,821
            Stephen S. Mosher, Reg. No. 33,974

all members of the Bar of the State of Texas and the firm of Howison & Handley, L.L.P, with

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            HOWISON & HANDLEY, L.L.P.
            P.O. Box 741715
            Dallas, Texas 75374-1715

and that all telephone calls be directed to Gregory M. Howison at (972) 479-0462.

                    By: _____
                           William S. Leftwich, Chief Financial Officer

                    Date: ____2/1/00_____